Liberia - Mt. Coffee Support Water Pipeline

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Overview

Identification

COUNTRY
Liberia

EVALUATION TITLE
Mt. Coffee Support Water Pipeline

EVALUATION TYPE
Independent Performance Evaluation

ID NUMBER
DDI-MCC-LIB-IE-PIPELINE-2020-01

Version

VERSION DESCRIPTION
Not applicable to this evaluation; no quantitative data to be shared

Overview

ABSTRACT
In 2015, the Millennium Challenge Corporation (MCC) partnered with the Government of Liberia (GoL) to help address the country's insufficient access to reliable and affordable electricity. Under MCC's compact with the GoL, the $202 million Energy Project aims to modernize Liberia's energy network, extend access to electricity, and improve the quality and reliability of the country's power system. MCC has contracted with MPR to to conduct impact and performance evaluations of four separate activities and investments. This report outlines the proposed evaluation design of the Mt. Coffee Support Activity, which includes a sub-activity to restore and upgrade the raw water pipeline to the White Plains water treatment plant. The $18 million water pipeline sub-activity is expected to improve LWSC's capacity to serve more than one million customers in and around Monrovia who currently lack an adequate supply of clean water. The gravity-fed pipeline system is expected to reduce the cost of pumping water to the treatment plant, improve raw water quality by substituting a less saline source than the previous location along the St. Paul River, and provide a more consistent supply of potable water.

Mathematica has proposed a performance evaluation to assess the pipeline implementation and whether the water pipeline sub-activity was able to meet the outcomes as set out in the theory of change, as well as a recalculation of the economic rate of return (ERR) and update of the cost-benefit analysis. Mathematica will draw on documentation, administrative data, site visits and key informant interviews (KIIs) to answer the evaluation questions.

EVALUATION METHODOLOGY
Pre-Post

UNITS OF ANALYSIS
other

KIND OF DATA
Administrative records data [adm], Other

TOPICS

Topic	Vocabulary	URI
Energy	MCC Sector	

KEYWORDS
Liberia, Energy, Water, Pipeline

Coverage

GEOGRAPHIC COVERAGE
The water pipeline sub-activity is being implemented at the White Plains water treatment plant (located next to MCHPP on the outskirts of Monrovia).

UNIVERSE
Not applicable.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Mathematica	

FUNDING

Name	Abbreviation	Role
Millennium Challenge Corporation	MCC	

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Millennium Challenge Corporation	MCC		Review of Metadata
Mathematica	Mathematica		Independent Evaluator

DATE OF METADATA PRODUCTION
2021-02-19

DDI DOCUMENT VERSION
Version 1 (Original 2021-2-19)

DDI DOCUMENT ID
DDI-MCC-LIB-IE-PIPELINE-2020-01

MCC Compact and Program

COMPACT OR THRESHOLD
Liberia Compact

PROGRAM
The Mt. Coffee Support Activity, which addresses environmental and social risks associated with the rehabilitation of Mt. Coffee Hydro Power Plant (MCHPP), includes a sub-activity to construct a water pipeline from MCHPP to the water treatment plant.

MCC SECTOR
Energy (Energy)

PROGRAM LOGIC
The program logic of the pipeline sub-activity identifies five stages: outputs, which lead to intermediate outcomes, which lead to long-term outcomes, which support the objective of the Mt. Coffee Support Activity, and subsequently support the compact goal. The program outputs include rehabilitation of the water pipeline, implementation of an operations and management (O&M) plan, training for Liberia Water and Sewer Corporation (LWSC) staff, procurement of leak detection equipment and spare parts for the pipeline, and completion of the financial management training. Theoretically, these outputs together lead to intermediate outcomes of increased quantity, improved reliability and decreased salinity of water supply to the water treatment plant, and reduced electricity costs for the LWSC due to the gravity-fed pipeline system. In the

long term, the increase in raw water supply to the treatment plant, combined with the decreased salinity of raw water, interact to improve the quantity and quality of water supply in LWSC's service areas. Similarly, improved reliability of water to the treatment plant is expected to result in more consistent water supply to LWSC's service areas. Finally, the construction or rehabilitation of wells in the communities surrounding MCHPP addresses the risk of the pipeline limiting access to the St. Paul River as a water source for some of the local communities. This program logic is contingent on assumptions about regular maintenance of the newly built water pipeline, LWSC's capacity to treat (through donor support) and deliver water to customers, and LWSC's ability to pay for electricity bills (which thereby enables it to use funds allocated to O&M).

PROGRAM PARTICIPANTS

LWSC and the White Plains water treatment plant

Sampling

Study Population

Not applicable.

Sampling Procedure

Not applicable

Deviations from Sample Design

Not applicable

Response Rate

Not applicable

Weighting

Not applicable

Questionnaires

No content available

Data Collection

Data Collection Dates

Start	End	Cycle
2021-01-01	2021-04-30	Interim
2024-01-01	2024-04-30	Sustainability Check

Data Collection Notes

We plan to collect administrative data and documentation, and conduct site visits and key informant interviews during the interim and sustainability check rounds.

Supervision

Not applicable.

Data Processing

No content available

Data Appraisal

Estimates of Sampling Error

Not applicable